



| v3 - LEED 2009

Water use reduction

WEC3 | Possible 4 points

Glossary

Intent

To further increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

Requirements

Employ strategies that in aggregate use less water than the water use baseline calculated for the building (not including irrigation). The minimum water savings percentage for each point threshold is as follows:

Building Use Reduction		Process Use Reduction	Points
30%	AND	30%	2
35%	AND	35%	3
40%	AND	40%	4

Building water use

Calculate the baseline according to the commercial baselines outlined below¹. Calculations are based on estimated occupant usage. Include only the following fixtures and fixture fittings (as applicable): water closets, urinals, lavatory faucets, showers, kitchen sink faucets, and pre-rinse spray valves. [\[Europe ACP: Water Use Baseline\]](#)

Fixtures, Fittings, and Appliances	Current Baseline (Imperial Units)	Current Baseline (Metric Units)
Commercial Toilets	1.6 gallons per flush (gpf)* Except blow-out fixtures: 3.5 (gpf)	6 liters per flush (lpf) Except blow-out fixtures: 13.5 lpf
Commercial Urinals	1.0 (gpf)	4.0 lpf
Commercial Lavatory (restroom) Faucets	2.2 gallons per minute (gpm) at 60 pounds per square inch (psi), private applications only (hotel or motel guest rooms, hospital patient rooms) 0.5 (gpm) at 60 (psi)**all others except private applications 0.25 gallons per cycle for metering faucets	8.5 liters per minute (lpm) at 4 bar (58 psi), private applications only (hotel or motel guest rooms, hospital patient rooms) 2.0 lpm at 4 bar (58 psi), all others except private applications 1 liter per cycle for metering faucets
Shower	2.5 (gpm) at 80 (psi) per shower stall	9.5 lpm at 5.5 bar (80 psi) per shower stall
Kitchen Faucet	2.2 (gpm) at 60 (psi)	8.5 lpm at 4 bar (58 psi)
Commercial Pre-rinse Spray Valves (for food service applications)	Flow rate ≤ 1.6 (gpm) (no pressure specified; no performance requirement)	Flow rate ≤ 6 lpm (no pressure specified; no performance requirement)

* EPAct 1992 standard for toilets applies to both commercial and residential models.

** In addition to EPAct requirements, the American Society of Mechanical Engineers standard for public lavatory faucets is 0.5 gpm at 60 psi (2.0 lpm at 4 bar (58 psi)) (ASME A112.18.1-2005).

This maximum has been incorporated into the national Uniform Plumbing Code and the International Plumbing Code.

AND

Commercial water use

Employ strategies that in aggregate use less water than the water use baseline calculated for commercial equipment performance requirements as listed in the following table. Base the calculations on estimated occupant usage. Include only the following fixtures (as applicable): clothes washers, dishwashers, ice machines, food steamers, and combination ovens.

Exemptions from calculations:

- Appliances and equipment that use water for human consumption may be excluded. Examples: bread mixers, produce mixers, soda machines, coffee-making machines, and fixtures used to fill sinks for washing produce.
- Equipment, appliances, fixtures, and fittings that are not covered by the Energy Policy Act of 1992 (EPAct 1992), do not contribute toward the retail process, and are not commercially rated may be excluded. Example: a residential dishwasher in an employee break room.
- Fixtures whose flow rates are regulated by health codes may be excluded. Example: fixtures used for filling dishwashing sinks in which water must be maintained at a certain temperature.

Commercial Equipment	Baseline (Imperial Units)	Baseline (Metric Units)
Commercial clothes washer, less than 80 lbs (36.3 kg)	9 gallons/cf/cycle	1,200 liters/m ³ /cycle
Commercial dishwasher		
Under counter, high temperature	1.98 gallons/rack	7.50 liters/rack
Under counter, low temperature	1.95 gallons/rack	7.38 liters/rack
Door type, high temperature	1.44 gallons/rack	5.45 liters/rack

Door type, low temperature	1.85 gallons/rack	7.00 liters/rack
Single tank rack conveyor, high temperature	1.13 gallons/rack	4.28 liters/rack
Single tank rack conveyor, low temperature	1.23 gallons/rack	4.66 liters/rack
Multi- tank rack conveyor, high temperature	1.1 gallons/rack	4.16 liters/rack
Multi- tank rack conveyor, low temperature	0.99 gallon/rack	3.75 liters/rack
Flight type	180 gph	681.37 lph
Commercial ice machines		
Ice machine, IMH (ice-making head) H < 450 lbs/day (<204.11 kg/day)	< 25 gal/100 lbs ice	< 95 liters/46 kg ice
Ice machine, IMH (ice-making head) H > 450 lbs/day (>204.11 kg/day)	< 25 gal/100 lbs ice	< 95 liters/46 kg ice
Ice machine, RCU (no remote compressor) H < 1,000 lbs/day (<453.59 kg/day)	< 25 gal/100 lbs ice	< 95 liters/46 kg ice
Ice machine, RCU (no remote compressor) H > 1,000 lbs/day (>453.59 kg/day)	< 25 gal/100 lbs ice	< 95 liters/46 kg ice
Ice machine, RCU (remote compressor) H < 934 lbs/day (<423.66 kg/day)	< 25 gal/100 lbs ice	< 95 liters/46 kg ice
Ice machine, RCU (remote compressor) H > 934 lbs/day (>423.66 kg/day)	< 25 gal/100 lbs ice	< 95 liters/46 kg ice
Ice machine, SCU (self-contained unit)	< 35 gal/100 lbs ice	< 133liters/46 kg ice
Ice machine, water-cooled	Must be on chilled loop	Must be on chilled loop
Ice machine, once-through water-cooled	Banned	Banned
Food steamer		
Steam cooker, batch cooking	8 gph/pan	3085.11 lph/pan
Steam cooker, high production or cook to order	8 gph/pan	317.97 lph/pan
Combination oven		
Countertop or stand mounted	40 gph	151.42 lph
Roll-in	60 gph	227.12 lph
Other equipment	Based on industry standards	Based on industry standards
Notes: gph = gallons per hour; cf = cubic feet; lph = liters per hour; H = ice production.		

For equipment not listed in the above tables, the project team may propose performance baseline requirements, with documentation supporting the proposed benchmark.

Alternative Compliance Paths (ACPs)

Europe ACP: Water Use Baseline

Projects in Europe may use the values defined by European Standards.